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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR    | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-------------------------|---------------------|------------------|
| 10/020,547      | 10/30/2001  | William L. Hergenrother | P01038US1A (P292)   | 8569             |

7590

04/10/2003

Chief Intellectual Property Counsel  
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EXAMINER

MULLIS, JEFFREY C

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/020,547

Applicant(s)

HERGENROTHER ET AL.

Examiner

Jeffrey C. Mullis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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The references crossed out on applicants' Information Disclosure Statement, namely the Japanese language patents have not been considered since no concise explanation of their relevance has been provided as required by MPEP § 609.

Applicant's election of styrene butadiene rubber, thiazole based materials for accelerators, difunctional cross-linkers wherein R is R"XR" and wherein R' is branched and linear C<sub>1</sub> to C<sub>10</sub> alkyls and wherein R" is the branched and linear C<sub>2</sub> to C<sub>10</sub> alkylenes and wherein X is oxygen and wherein m = 1 in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The amendment filed 1-29-03 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: That thiazoles may be used in the instant invention.

Applicant is required to cancel the new matter in the response to this Office action.

Claims 5, 9, 14 and 19 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably

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convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as filed does not disclose that thiazoles may be used in the instant invention.

Claims 1-20 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The term "molecular weight" where unqualified as to the type of molecular weight, for instance weight or number average molecular weight is unclear since molecular weights can vary drastically depending on the type of distribution intended.

It is unclear what the structure of the difunctional cross-linking agent embraces when  $m = 0$  given that sulfur is divalent and would be linked only to a single group R in cases where no Y group was present.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) The invention was described in (1) an application for patent, published under Section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have

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the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

M Claims 1-14 are rejected under 35 U.S.C. § 102(e) as being anticipated by Yatsuyanagi et al. (USP 6,518,367).

Yatsuyanagi et al. disclose a vulcanizable rubber containing composition containing a polysulfide and an accelerator such as a thiazole (Abstract). Note Table II and column 21 lines 13-16 for use of applicants' polysulfides such as polysulfide No. 4 which is a benzyl terminated Thiokol LP-31. Note that applicants' specification discloses the use of Thiokol LP-31 and the patent discloses the use of benzyl terminated Thiokol LP-31 (as is embraced by alkaryl R' group of applicants' claims). Note that polysulfide polymers of the patent may contain ether repeating units at column 16 lines 23-43.

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d Claims 1-14 are rejected under 35 U.S.C. § 102(e) as being anticipated by Maruyama et al. (USP 6,344,510).

Maruyama et al. disclose a vulcanizable rubber containing composition containing a polysulfide such as applicants' cycloalkyl terminated polysulfide (note the Abstract and the structure at column 8 lines 33-40). Note Example 2 in Table 1 for use of rubber and the polysulfide with an accelerator.

n Claims 15-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over either Yatsuyanagi et al. or Maruyama et al., both cited above.

Neither Maruyama et al. nor Yatsuyanagi et al. discloses any examples in which their rubbers are converted into pneumatic tires. However it was widely known at the time of the invention to convert rubber into pneumatic tires and applicants are given Official Notice of this fact. Therefore it would have been obvious to a practitioner having ordinary skill in the art at the time of the invention to convert the rubbers of the Yatsuyanagi reference or the Maruyama et al. patent given that both patents disclose that their rubbers are unusually easy to process and have good fatigue resistance characteristics which would make these materials unusually good candidates for being processed into tires and in the expectation of increasing the value of the rubbers of the patents absent any showing of surprising or unexpected results.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Mullis whose telephone number is (703) 308-2820. The examiner can normally be reached on Monday-Friday from 9:30 to 6:30.

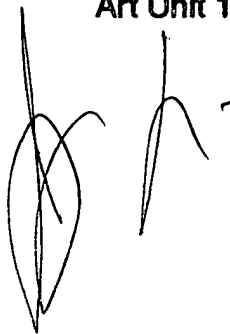
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on (703) 308-2462. The fax phone number for this Group is before final (703) 872-9310 and after final (703) 8729311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2351.

J. Mullis:cdc

April 4, 2003

Jeffrey Mullis  
Primary Examiner  
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A handwritten signature in black ink, appearing to be 'J. Mullis', is written below the typed name and title.